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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/584,161	03/29/2007	Juergen Eberle	2003P01969WOUS	5081

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INTELLECTUAL PROPERTY DEPARTMENT
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EXAMINER	
KOAGEL, JONATHAN BRYAN	
ART UNIT	PAPER NUMBER
3744	

NOTIFICATION DATE	DELIVERY MODE
11/17/2009	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No.	Applicant(s)	
	10/584,161	EBERLE ET AL.	
	Examiner	Art Unit	
	JONATHAN KOAGEL	3744	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *19 June 2009*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *7-10,12 and 13* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *7-10, 12-13* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 7-10 and 12-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Electrogeraete FR Publication No. 1,516,944 and further in view of Dobson et al. US Publication No. 2002/0184911 A1.

Regarding claim 7, Electrogeraete teaches in fig. 11, a refrigerating unit comprising a suction tube 41, 42 and a throttling tube 43 which runs at least over a part of its length inside the suction tube 41, 42 and is guided out from the suction tube 41, 42 to form a first outlet location 44 wherein the throttling tube 43 and the suction tube 41, 42 are joined to one another at a second location 45 of the suction tube 41, 42 at which outer surfaces of the throttling tube 43 and the suction tube 41, 42 are in contact, wherein the outer surfaces of the throttling tube 43 and the suction tube 41, 42 are joined to one another at the second location 45 by welding (pg. 4 paragraph 7). Electrogeraete does not explicitly teach where the weld at the second location is an ultrasound weld.

However, Dobson teaches the functional equivalence of a number of means for bonding, including ultrasound welding, tubes of an accumulator in an air conditioning

system (paragraph 48 lines 1-8). Ultrasonic welding is particularly advantageous because it is well known in the art to be a fast method of adhering elements with a short drying time.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to modify Electrogeraete with the teachings of Dobson to include ultrasound welding in order to provide an adhering method that is much faster than conventional adhesives of solvents. The fast drying time prevents the adhered pieces from remaining in a jig for a long period of time, waiting for the joint to dry or cure. This welding type is also easily automated, making clean and precise joints.

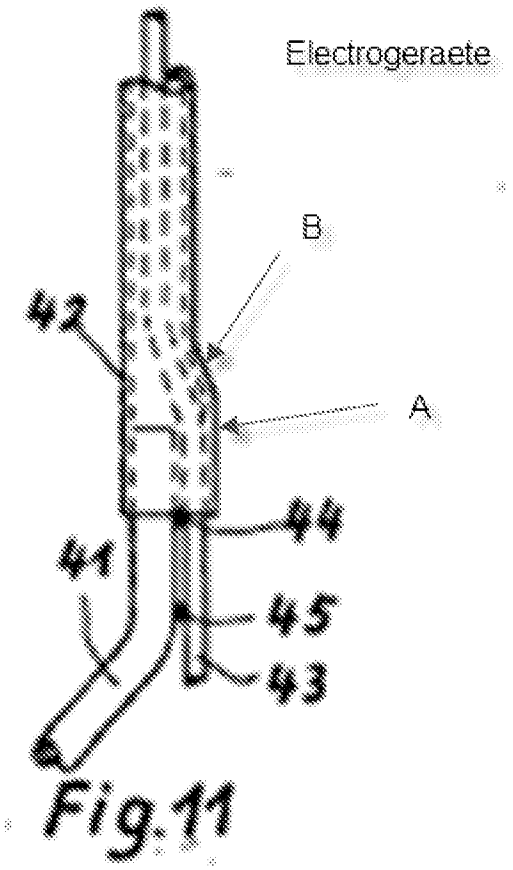

Fig.11

Regarding claim 8, Electrogeraete as modified above teaches the invention as disclosed and further teaches in fig. 11 that the first and second locations, 44 and 45 are spaced apart at a distance. Electrogeraete fails to explicitly teach where the second location is spaced apart from the first location at a range of 5mm to 20mm. Since Electrogeraete discloses according to figure 11, a distance between the first location and the second location, this distance is recognized as a result effective variable, i.e. a variable which achieves a recognized result. In this case the recognized result is that

with this distance between the first and second locations, the throttling tube has less of a chance of becoming damaged during an installation process. This specific distance of 5-20mm will increase the rigidity of the throttling tube, which will prevent damage to the tubes by over flexing during an installation process. Therefore, since the general condition of the claim, i.e. that there is a distance between the first and second locations, was disclosed in the prior art by Electrogeraete, it is not inventive to discover the optimum workable range by routine experimentation and it would be obvious to one of ordinary skill in the art at the time of invention to provide the tube as disclosed by Electrogeraete with a distance of 5-20mm between the first and second location.

Regarding claim 9, Electrogeraete as modified above teaches the invention as disclosed and further teaches in fig. 11 wherein the second location 45 is located downstream from the outlet location 44 with reference to the refrigerant flowing in the suction tube 41, 42.

Regarding claim 10, Electrogeraete as modified above teaches the invention as disclosed and further teaches in fig. 11, wherein the outlet location 44 is provided at a connecting tube A (labeled by examiner) on which both the suction tube 41, 42 and the throttling tube 43 are fixed downstream in a liquid and gastight manner (pg. 4 paragraph 7). Electrogeraete discloses that the tubes are brazed and welded at the locations 44 and 42. Therefore, the tubes are fixed in a liquid and gastight manner. From figure 11, the outer wall of tubes 41 and 43 are in contact with the inner wall of tube 42 (indicated

by a dashed line). Since both tubes 41 and 43 are in contact with the inner wall (dashed line) they are considered to be fixed in a liquid and gastight manner. A person of ordinary skill in the art would have known to fix the suction tube and the throttling tube downstream in a liquid and gastight manner so that refrigerant does not leak out of the refrigerating unit and into the surrounding environment. Refrigerants can be toxic, and can contaminate the surrounding area of the refrigerating unit, creating a dangerous health environment to a person near the unit.

Regarding claim 12, Electrogeraete teaches in fig. 11, a method for joining a suction tube of a refrigerating unit to a throttling tube comprising the following acts, guiding the throttling tube 43 out from the inside of the suction at an outlet location 44 of the suction tube 41, 42, joining the suction tube 41, 42 and the throttling tube 43 at the outlet location, bringing in contact an outer surface of a portion of the throttling tube 43 located outside the suction tube 41, 42 with an outer surface of the suction tube 41, 42 at a second location 45 of the suction tube 41, 42, joining the suction tube 41, 42 and the throttling tube 43 at the second location 45, joining the outer surfaces of the suction tube 41, 42 and the throttling tube 43 to one another at the second location 45 by welding (pg. 4 paragraph 7). Regarding the joining of the suction tube and the throttling tube at the outlet location by soldering, Electrogeraete teaches an equivalent technique of brazing which allows both the tubes to become joined together by the use of a filler metal which melts and creates a sealed joint. Both brazing and soldering use a filler

metal that melts and creates a sealed joint without the melting of the surfaces that are being joined. Electrogeraete fails to explicitly teach the use of ultra sound welding.

However, Dobson teaches the functional equivalence for a number of means of bonding, including ultrasound welding tubes of an accumulator in an air conditioning system (paragraph 48 lines 1-8). Ultrasonic welding is particularly advantageous because it is well known in the art to be a fast method of adhering elements with a short drying time.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to modify Electrogeraete with the teachings of Dobson to include ultrasound welding in order to provide an adhering method that is much faster than conventional adhesives of solvents. The fast drying time prevents the adhered pieces from remaining in a jig for a long period of time, waiting for the joint to dry or cure. This welding type is also easily automated, making clean and precise joints.

Regarding claim 13, Electrogeraete as modified above teaches the invention as disclosed and further teaches in fig. 11 that the first and second locations, 44 and 45 are spaced apart at a distance. Electrogeraete fails to explicitly teach where the second location is spaced apart from the first location at a range of 5mm to 10mm. Since Electrogeraete discloses according to figure 11, a distance between the first location and the second location, this distance is recognized as a result effective variable, i.e. a variable which achieves a recognized result. In this case the recognized result is that with this distance between the first and second locations, the throttling tube has less of

a chance of becoming damaged during an installation process. This specific distance of 5-10mm will increase the rigidity of the throttling tube, which will prevent damage to the tubes by over flexing during an installation process. Therefore, since the general condition of the claim, i.e. that there is a distance between the first and second locations, was disclosed in the prior art by Electrogeraete, it is not inventive to discover the optimum workable range by routine experimentation and it would be obvious to one of ordinary skill in the art at the time of invention to provide the tube as disclosed by Electrogeraete with a distance of 5-10mm between the first and second location.

Response to Arguments

Applicant's arguments, see page 3, filed 6/19/09, with respect to claims 7 and 12 have been fully considered and are persuasive. The rejection of claims 7 and 12 has been withdrawn. This office action is being made non-final to afford the applicant the opportunity to respond to the new grounds of rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JONATHAN KOAGEL whose telephone number is (571)270-7396. The examiner can normally be reached on Monday through Friday 7:30am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cheryl Tyler can be reached on (571)272-4834 or Frantz Jules (571)272-

6681. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/J. K./
Examiner, Art Unit 3744
03 November 2009

/Cheryl J. Tyler/
Supervisory Patent Examiner, Art Unit 3744